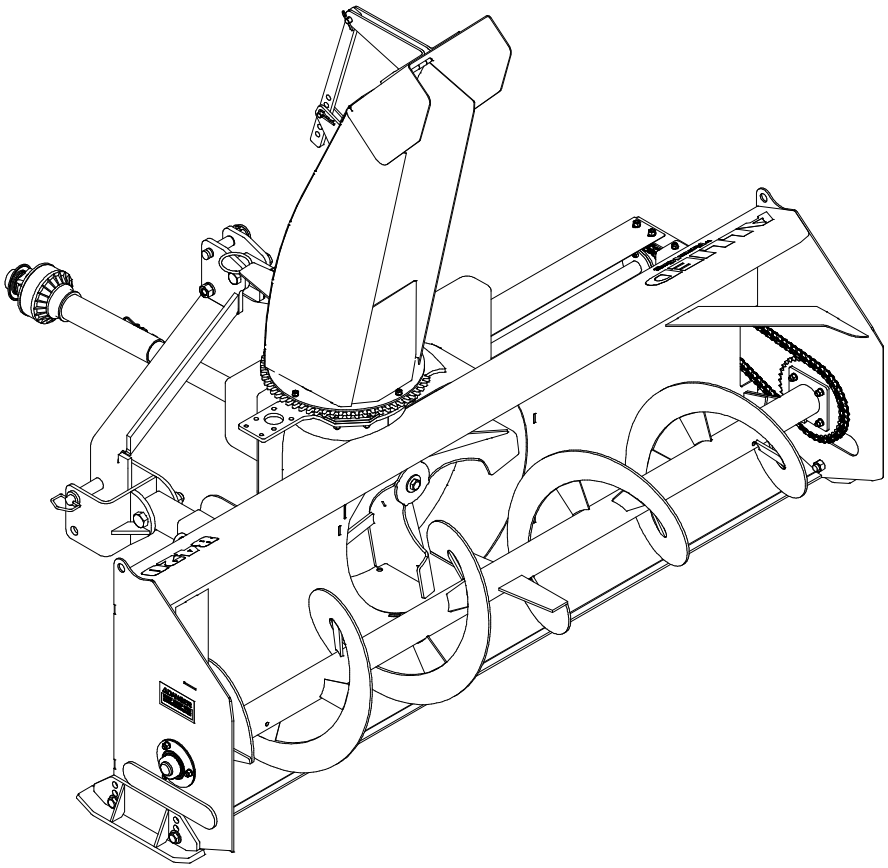
ALLIED

by Farm King

OPERATOR AND PARTS MANUAL

Snowblower

Model 7420, 8420 & 8420G



042014 FK331

Table of Contents

Introduction **4**

Safety **5**
- Safety 5
- General Safety 6
- Start-up Safety 6
- Operation Safety 6
- Transport Safety 7
- Service and Maintenance Safety 7
- Storage Safety 7
- Safety Signs 8
- Safety Sign Installation 8

Assembly **9**
- Assembly Instructions 9

Operation **12**
- Theory of Operation 13

Maintenance **14**

Bolt Torque **15**
- Checking Bolt Torque 15

Parts Drawings **17**
- Snowblower Drawings 17
- Snowblower Parts List 20
- Snowblower Gearbox Drawing and Parts List 23
- PTO Drawing 24
- PTO Parts List 25
- Optional Long PTO Shaft 26
- 1.75 x 5 Cylinder Assembly Drawings and Parts List 27

Optional Kits **28**
- Hand Crank Spout Rotation 28
- Hydraulic Spout Rotation 30

Shipping Kit and Bundle Numbers **32**

Warranty **34**

Manufacturer's statement: for technical reasons Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice.
Information provided herein is of descriptive nature. Performance quality may depend on soil fertility, applied agricultural techniques, weather conditions and other factors.

Introduction

Allied has years of snowblower manufacturing expertise and thousands of acreages, farms and cities depend on Allied snowblowers.

PTO-driven Allied snowblowers attach to a tractor's 3-point hitch. This snowblower is supplied with Category 1 pins with conversion bushings to Category 2 available. The 7420 and 8420 snowblowers have open gearboxes. The Y8420G has an oil bath gearbox. Adjustable side mounted skid shoes are standard on all models.

Shear bolt protection is provided at the sprocket to the main auger, and is easily accessed by removing nuts and cover at the back of the housing.

A hitch system, which is quick-hitch compatible is standard on all models. A longer 36" PTO shaft is optional.

Options are available for spout rotation and deflector control. Two additional spout rotation options include hand powered and hydraulic. The deflector may also be controlled by an optional hydraulic cylinder kit. There is a shear bolt on the auger and on the PTO shaft to protect the machine from damage if a large object is picked up. Any smaller objects in the snow will be thrown with it and could cause serious injury. Do not allow anyone to stand behind the tractor or in the area of the discharged snow.

Keep this manual handy for frequent reference. All new operators or owners must review the manual before using the equipment and at least annually thereafter. Contact your Allied Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.farm-king.com for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as seen facing in the direction of travel of the implement.

Safety

Safety Instructions

Remember, YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that everyone operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

The alert symbol is used throughout this manual. It indicates attention is required and identifies hazards. Follow the recommended precautions.

The safety alert symbol means...
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

	CAUTION	The caution symbol indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
	WARNING	The Warning Symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.
	DANGER	The Danger Symbol indicates an imminently hazardous situation that, if not avoided will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

General Safety Instructions

- Have a first-aid kit available for use and know how to use it.
- Have a fire extinguisher available, stored in a highly visible location, and know how to use it.
- Wear appropriate protective gear. This list may include but is not limited to:
  - hard hat
  - protective shoes with slip resistant soles
  - protective glasses or goggles
  - heavy gloves
  - wet weather gear
  - hearing protection
  - respirator or filter mask
- Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing, or unplugging the equipment.
- Do not attempt any unauthorized modifications to your Farm King product as this could affect function or safety, and could affect the life of the equipment.
- Never start or operate the snowblower except from the operator's station on the power unit.
- Inspect and clean the working area before operating.
- Keep hands, feet, clothing, and hair away from moving parts.
- Ensure bystanders are clear of the area before operating.

Start-Up Safety

- Do not let inexperienced operators or children run this equipment.
- Place all tractor and machine controls in neutral before starting.
- Operate only with ROPS and seatbelt equipped tractors.
- Do not operate inside a building unless there is adequate ventilation.
- Ensure all shields are in place and in good condition before operating.
- Stay clear of PTO shaft and machine when engaging PTO.

Operation Safety

- Do not permit riders.
- Do not wear loose fitting clothing during operation.
- Do not allow anyone other than the operator close to the Auger when in operation.
- Stay clear of snowblower augers.
- Stay clear of snowblower discharge chute. Rocks or debris can be picked up and thrown.
- Never operate over 540 PTO rpm speed.
- Never operate equipment in the raised position.

Transport Safety

- Review Transport Safety instructions in tractor manual before moving.
- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic.
- Never have the equipment in operation during transport.
- Always travel at a safe speed.

Service and Maintenance Safety

- Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- Support the equipment with blocks or safety stands before working beneath it.
- Follow good shop practices including:
  - keep service area clean and dry
  - be sure electrical outlets and tools are properly grounded
  - use adequate light for the job.
- Use only tools, jacks, and hoists of sufficient capacity for the job.
- Replace and secure all shields removed during servicing before operating.
- Use heavy leather gloves to handle sharp objects.
- Check hydraulics regularly for leaks. Use cardboard to look for leaks, and use hand and eye protection.
- Relieve pressure on hydraulic system before repairing or adjusting.

Storage Safety

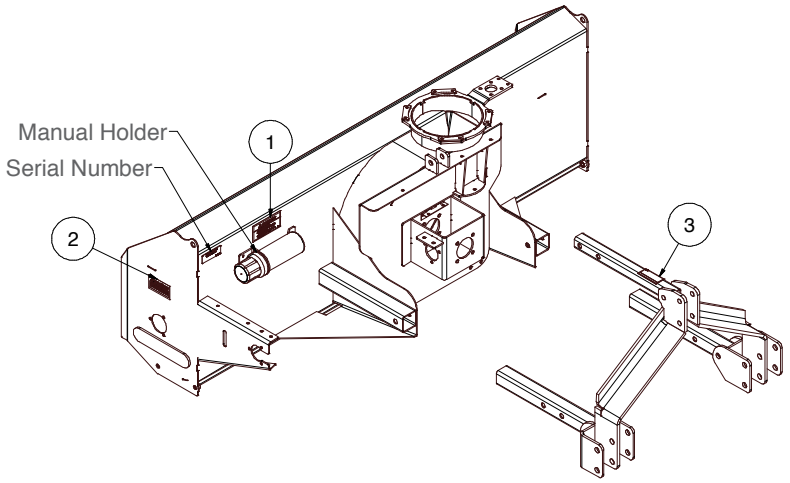
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Support the frame on stands and blocks to provide a secure base.

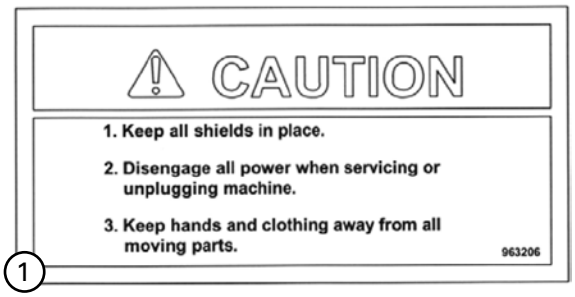
Safety Signs

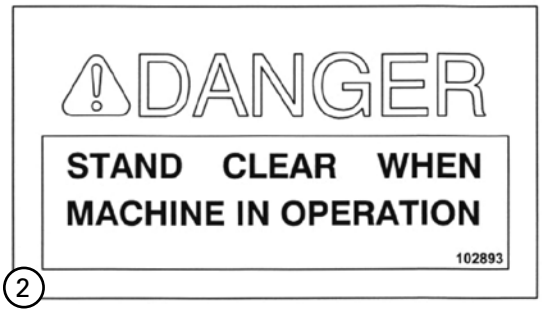
- The following illustration shows the approximate location and detail of safety signs.
- Keep all safety signs clean and legible and replace any that are damaged or missing.
- When original parts are replaced, any safety signs affixed to those parts should be replaced as well. Replacement safety signs are available from your local dealer.

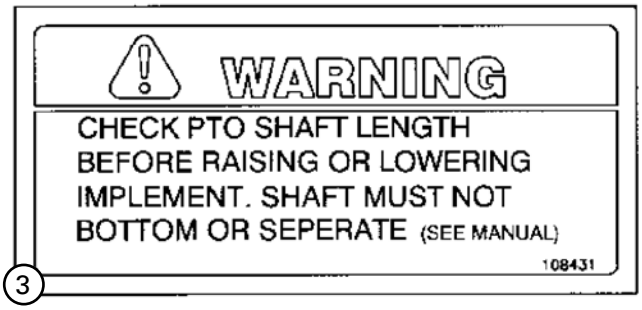
Installation

- To install safety signs, ensure the installation area is clean and dry. Decide on the exact position before you remove the backing paper. Remove the smallest portion of the split backing paper and align over the specified area. Carefully press in place.
- Slowly peel back the remaining paper and smooth the remaining portion in place. Small air pockets can be pierced with a pin and smoothed out.
- Replace safety signs immediately should they become damaged, torn or illegible. Obtain replacements from your authorized dealer using the part numbers shown.









Assembly Instructions

1. 740: Turn the bottom tube weldments (907213) as shown in drawing and slide them into the sleeve welded to the main body.

   840 & 840G: Turn the bottom tubes (907250) as shown in drawing and slide them into the sleeve welded to the main body.

   All sizes: The correct position for each individual tractor will be determined when mounting the snowblower on the tractor. These tubes are connected to the sleeves with a 3/4" x 4-1/4" pin (816131) and a hair pin clip (961012).

2. 740: Bolt the left (815263) and the right (815264) hitch arms to the inside of the plates welded to the hitch tubes using 7/8" x 2-1/2" hex bolts (966527) and lock nuts. Join the top of the hitch arms by bolting a 1" O.D. x 2" spacer (965808) between the top plates using a 3/4" x 4" bolt (84336), lock washer (81701) and hex nut (81700) through the lower outside holes. Bolt the upper hitch tube weldment (907218 / 907221) between the same plates using the same size of bolt. Use the inside holes on the top plates for the upper tube. The other end of the top hitch tube bolts between the welded brackets on the top edge of the fan housing with the same hardware. Tube must be turned as shown in drawing. Tighten all hardware.

   840 & 840G: Turn the hitch weldments (F0463) as shown in drawing. Bolt the hitch to the two bottom tubes (907250) using 7/8" x 5" bolts (811826) and lock nuts. The upper hitch tube (907218 / 907221) bolts to the top of the hitch and the welded brackets on the top edge of the fan housing using 3/4" x 4" bolts (#84336), lock washers (81701) and hex nuts (81700). Tube must be turned as shown in drawing. Join the top of the hitch arms by bolting a 1" O.D. x 2" spacer (965808) between the top plates using a 3/4" x 4" bolt, lock washer and hex nut through the lower outside holes. Tighten all hardware.

3. 740: A Category 1 top link pin (965807) is fitted in the top holes of the hitch arm plates. This pin is used for standard three-point hitch only. The bushing in the lower holes is used for the quick hitch.

   840 & 840G: The hitch fits standard Category 1 and 2 three-point hitches as well as Category 1 and 2 quick hitches. The highest and lowest holes are for standard three-point only. The inside set of holes must be used for a quick hitch. Adaptor bushings are supplied to convert from Category 1 or 2.

4. Mount the discharge spout (816666) using the spacers and spout clamps (816930 & 815574) bolted to the spout ring on the snowblower. Lubricate the spout ring and clamps.

5. Reference table of contents for spout rotation information

6. Mounting Snowblower on Tractor

- Mount the snowblower on a tractor with a Category 1 or Category 2 hitch.
- Using tape or a bright colored marking pen, mark on the outer shields the position where the shaft is completely pushed together and the position where you have a 4" overlap. Watch these marks when moving the blower through all possible operating angles to see that the PTO shaft stays within this range.
- With the tractor engine shut off, attach the PTO shaft. The tractor end has a standard 6-spline end with a spring loaded locking collar. The snowblower end has a clamp-style yoke with a 3/8" keyway. Slide the yoke onto the gearbox shaft with the 3/8" key supplied. Lock the yoke in place with the 1/2" x 3" hex bolt and lock nut fitted through the groove in the gearbox shaft. After tightening the bolt, insert and tighten the 3/8" socket set screw supplied.

CAUTION

Always check to see that both ends of the PTO shaft are securely attached every time the snowblower is used. This should always be done with the tractor engine off.

- Check that the PTO shaft does not bottom out or separate with the snowblower in the extreme high and low positions. Check to see which of the four different hitch positions will allow you to keep about a 4" minimum overlap on the PTO shields without bottoming out. This position varies between different tractor models because of the different lengths of the three-point arms. If the PTO shaft is still too long with the hitch fully extended, the PTO shaft will have to be cut shorter. Check for free movement of all parts in various raised positions, particularly the PTO shaft.

7. PTO Shield:

   - All snowblowers are supplied with a PTO shield. Bolt the shield (965410) to the hinges on the top of the gearbox on both the 740 and 840 snowblowers using 1/4" x 1/2" hex bolts, lock washers and hex nuts. Insert a 3/16" cotter pin in the hole in the shield and in the hole at the bottom corner of the gearbox. Fold back the cotter pins to hold them in place. Hook the ends of the spring (960135) into these cotter pins to hold the shield down. To mount the shield (965409) on the 840G snowblower, remove the two rear bolts at the top of the gearbox (BU50506). Bolt the PTO shield to the gearbox plate using these same bolts. Insert a 3/16" cotter pin in the hole in the shield and fold to lock in place. Hook one end of the spring (960135) into this cotter pin and the other end into a hole in the lower gearbox plate to hold the shield in place.

CAUTION Do not run the snowblower without this shield in place.

8. Parking Stand:

   All snowblowers are supplied with a parking stand. Bolt the parking stand (816255) to the back of the snowblower body, below the spout. Place a flat washer (84048) between parking stand and body. Assemble with supplied hardware, (84048, 81966, 87553, 816268). Do not over tighten the lock nut so that the parking stand can rotate freely. Insert detent pin (816268) into the top hole of parking stand.

Operation Instructions

1. Do not operate the snowblower in the fully raised position. The 3-point hitch on some tractors raises high enough to cause the PTO shaft to bind. This can cause damage to the PTO shaft and/or to the hitch and pins. **NOTE:** PTO shaft angle should not exceed 20° for optimum performance and life. Damage may occur to PTO and/or snowblower if angle becomes more extreme.
2. Depth of cut can be partially controlled by tilting the blower forward or backward. Adjust the top link of the tractor hitch so the snowblower is just slightly tilted back when resting on the ground.

ALERT

Excessive backward tilt may cause the “U” joints to flutter resulting in PTO shear bolt failure.

3. Adjust the lower link sway chains or blocks on the tractor to restrict side movement of the snowblower when operating.
4. Run the snowblower at low rpm to check operation before blowing snow.
5. The snowblower has two shear bolts to protect the tractor and snowblower in case a large object enters the blower. PTO shear bolt (Two 5/16" x 1"- Grade 5) Auger shear bolt (1/4" x 1"- Grade 5). Shear bolts should be fastened with a lock nut or two jam nuts. These bolts must be kept tight to prevent wear of the bolt and bolt holes.
6. Never run PTO shaft over 540 rpm.
7. Chain Tension: Slack on the lower side of the chain should be 3/8" to 1/2"
8. Lubrication:
   - The spout clamps and rings should be periodically lubricated with lithium general purpose grease.
   - PTO shaft universal joints and square shaft slide should be greased daily.
   - Regularly oiling the chain will significantly increase the life of the chain.
   - The grease fitting on the hydraulic spout swivel arm should be kept lubricated.
   - 740 & 840 only: Gearbox is open type and need not be greased
     840G only: See Section on refilling for correct oil level. Use any 80-90 gear oil or multigrade with 80 minimum.
9. Periodically check all bolts for tightness. The bolt holding on the fan and the bearing bolts are of particular importance.

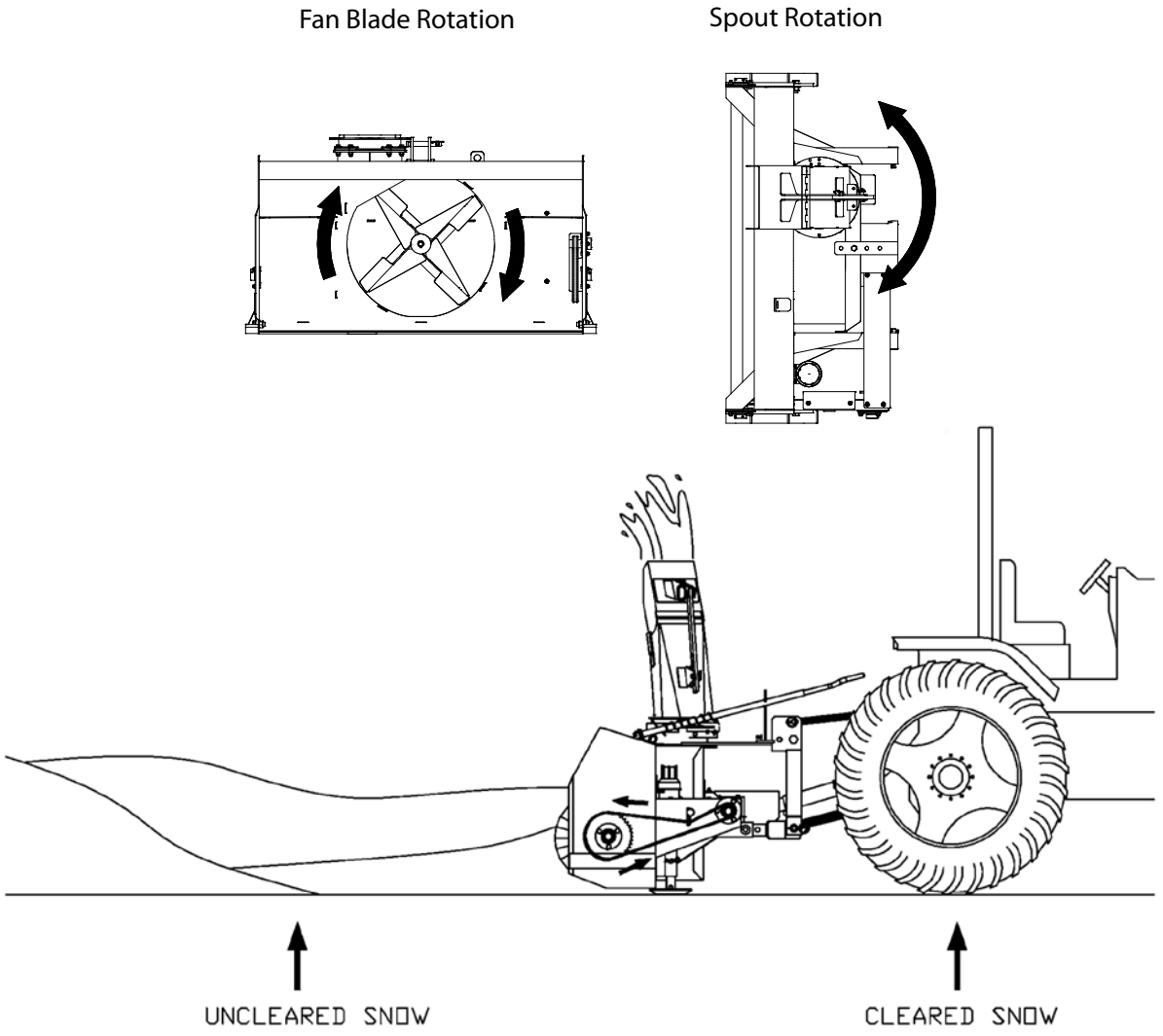
DANGER

Always stop snowblower for servicing or unplugging. The PTO should be disengaged before dismounting from the tractor.

	CAUTION	Always check to see that both ends of the PTO shaft are securely attached as per instructions every time you are preparing to use the snowblower.

10. When replacing bearings or tightening a loose bearing collar, always tighten collar in the direction of shaft rotation using a center punch or a similar tool.
11. Shear Sprocket: The shear sprocket (965826) should be checked at the beginning of every season to make sure it will spin freely. With time the sprocket plate could corrode and seize which will not allow the shear bolt to break if something jams in the snowblower auger. Clean to loosen if necessary.

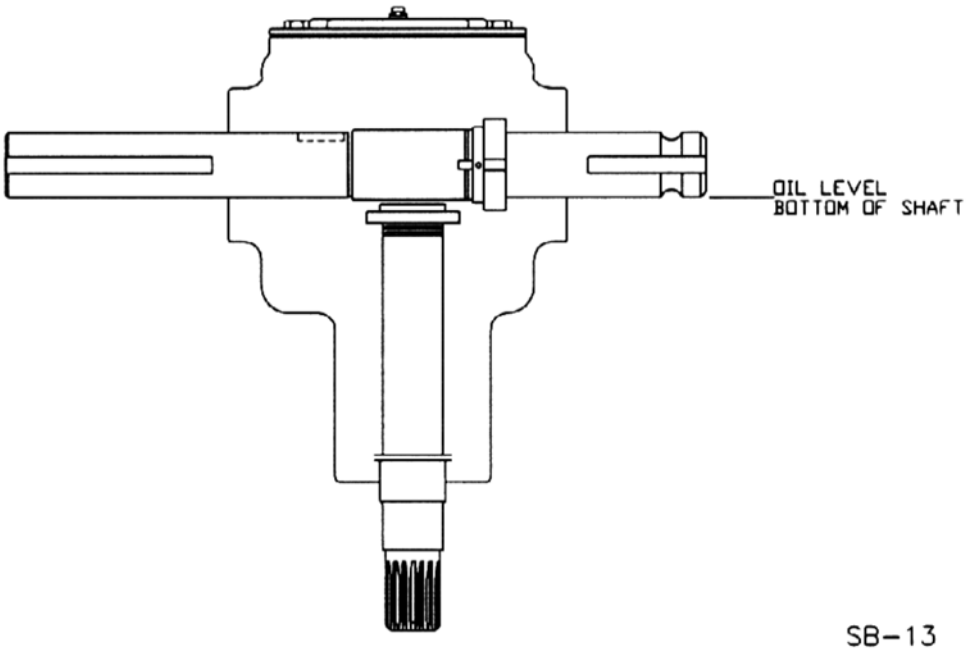
Theory of Operation



Maintenance

Refilling 840G Gearbox with Oil

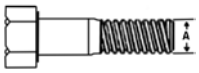
- If the gearbox requires refilling with oil because of repairs to the gearbox, add oil to the level shown in the drawing.
- Check the level regularly using the plug in the lid.
- The correct level is even with the bottom of the plug.



Bolt Torque

Checking Bolt Torque

The tables shown below give correct torque values for various bolts and hex bolts. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Bolt Torque*						
						
Bolt Diameter	Grade 2 Bolts		Grade 5 Bolts		Grade 8 Bolts	
(inches)	SAE 2		SAE 5		SAE 8	
"A"	(lb-ft)	(N.m)	(lb-ft)	(N.m)	(lb-ft)	(N.m)
0.25 (1/4)	6	8	9	12	12	17
0.313 (5/16)	10	13	19	25	27	36
0.375 (3/8)	20	27	33	45	45	63
0.438 (7/16)	30	42	53	72	75	100
0.5 (1/2)	45	61	80	110	115	155
0.563 (9/16)	70	95	115	155	165	220
0.625 (5/8)	95	128	160	215	220	305
.75 (3/4)	165	225	290	390	400	540
0.875 (7/8)	170	230	420	570	650	880
1	225	345	630	850	970	1320

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or hex bolts unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

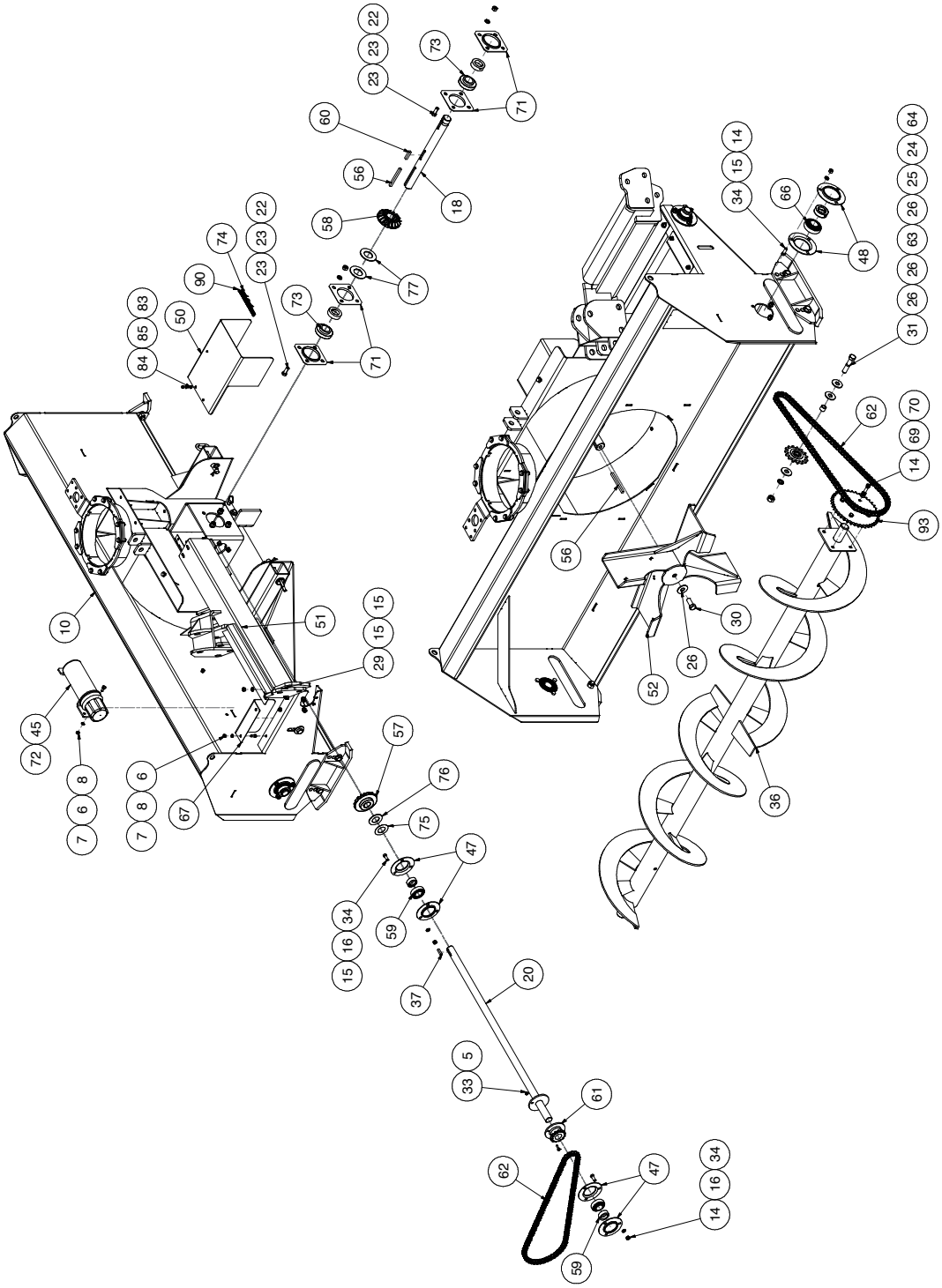
* Torque value for bolts and hex bolts are identified by their head markings.

Hydraulic Fittings					
		Jam Nut or Straight ORB Fitting Torque		SAE 37° (JIC) Swivel Nut Torque	
Dash Size	Thread Size	(lbs-ft)	(NM)	(lbs-ft)	(NM)
-4 (1/4)	7/16-20	16 - 14	20 - 22	11 - 10	13 - 15
-5 (5/16)	1/2-20	20 -18	24 - 27	15 - 13	18 - 20
-6 (3/8)	9/16-18	26 - 24	33 - 35	19 - 17	23 - 26
-8 (1/2)	3/4-16	60 - 50	68 - 78	38 - 34	47 - 52
-10 (5/8)	7/8-14	80 - 72	98 - 110	56 - 50	69 - 76
-12 (3/4)	1-1/16-12	135 - 125	170 - 183	78 - 70	96 - 106
-14 (7/8)	1-3/16-12	180 - 160	215 - 245	90 - 80	110 - 122
-16 (1)	1-5/16-12	220 - 200	270 - 300	104 - 94	127 - 141
-20 (1 1/4)	1-5/8-12	280 - 210	285 - 380	138 - 124	169 - 188
-24 (1 1/2)	1-7/8-12	360 - 270	370 - 490	173 - 156	212 - 235

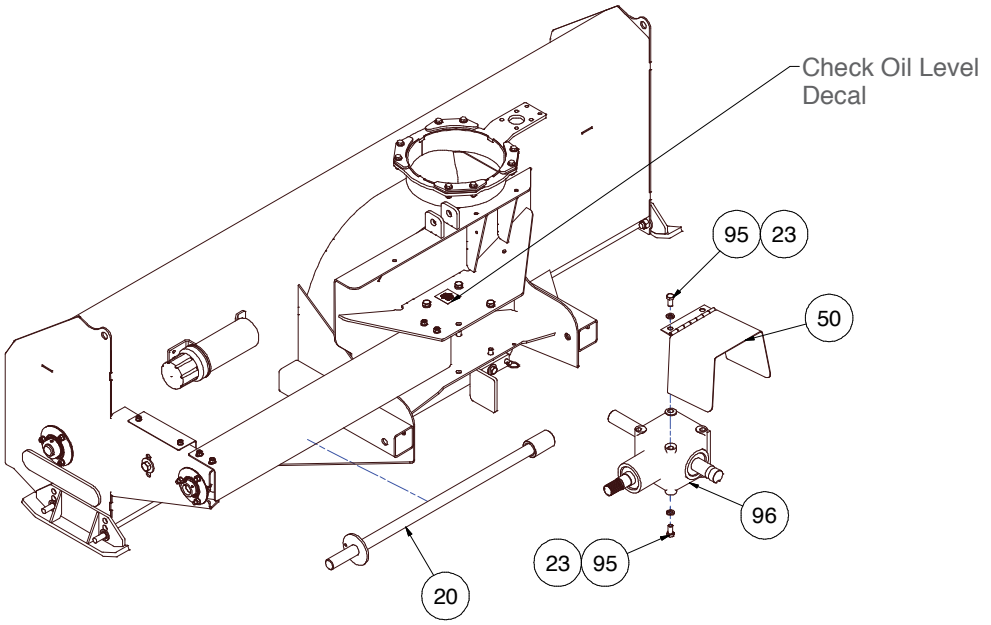
Prevailing Torque Lock Nuts				
Nut Size and Threads per Inch	Grade B Nuts		Grade C Nuts	
	Nut Tightening Torque		Nut Tightening Torque	
	(lbs-ft)	(NM)	(lbs-ft)	(NM)
Coarse Thread				
1/4 - 20	7 - 5	7 - 9	10 - 7	9 - 14
3/16 - 18	12.5 - 9	12 - 17	16 - 11	15 - 22
3/8 - 16	20 - 14.5	20 - 27	28 - 20	27 - 38
7/16 - 14	32 - 23	31 - 43	43 - 31	42 - 58
1/2 - 13	50 -37	50 - 68	62.5 - 45	61 - 85
9/16 - 12	70 - 50	68 - 95	95 - 70	95 - 129
5/8 - 11	95 - 70	95 - 129	122.5 - 90	122 - 166
3/4 - 10	165 - 125	169 - 224	210 - 155	210 - 285
7/8 - 9	250 - 185	251 - 339	312.5 - 225	305 - 423
1 - 8	375 - 275	373 - 508	462.5 - 360	488 - 627
Fine Thread				
1/4 - 28	7.5 / 5.5	7 - 10	10 -7	9 - 14
3/16 - 24	13 - 10	14 - 18	17 - 12	16 - 23
3/8 - 24	22 - 16	22 - 30	29 - 21	28 - 39
7/16 - 20	34 - 24	33 - 46	43 - 31	42 - 58
1/2 - 20	52.5 - 37.5	51 - 71	70 - 50	68 - 95
9/16 - 18	77.5 - 57.5	78 - 105	95 - 70	95 - 129
5/8 - 18	97.5 - 72.5	98 - 132	125 - 90	122 - 169
3/4 - 16	165 - 120	163 - 224	210 - 155	210 - 285
7/8 - 14	270 - 200	271 - 266	312.5 - 225	305 - 423
1 - 14	400 - 300	407 - 542	500 - 362.5	491 - 678

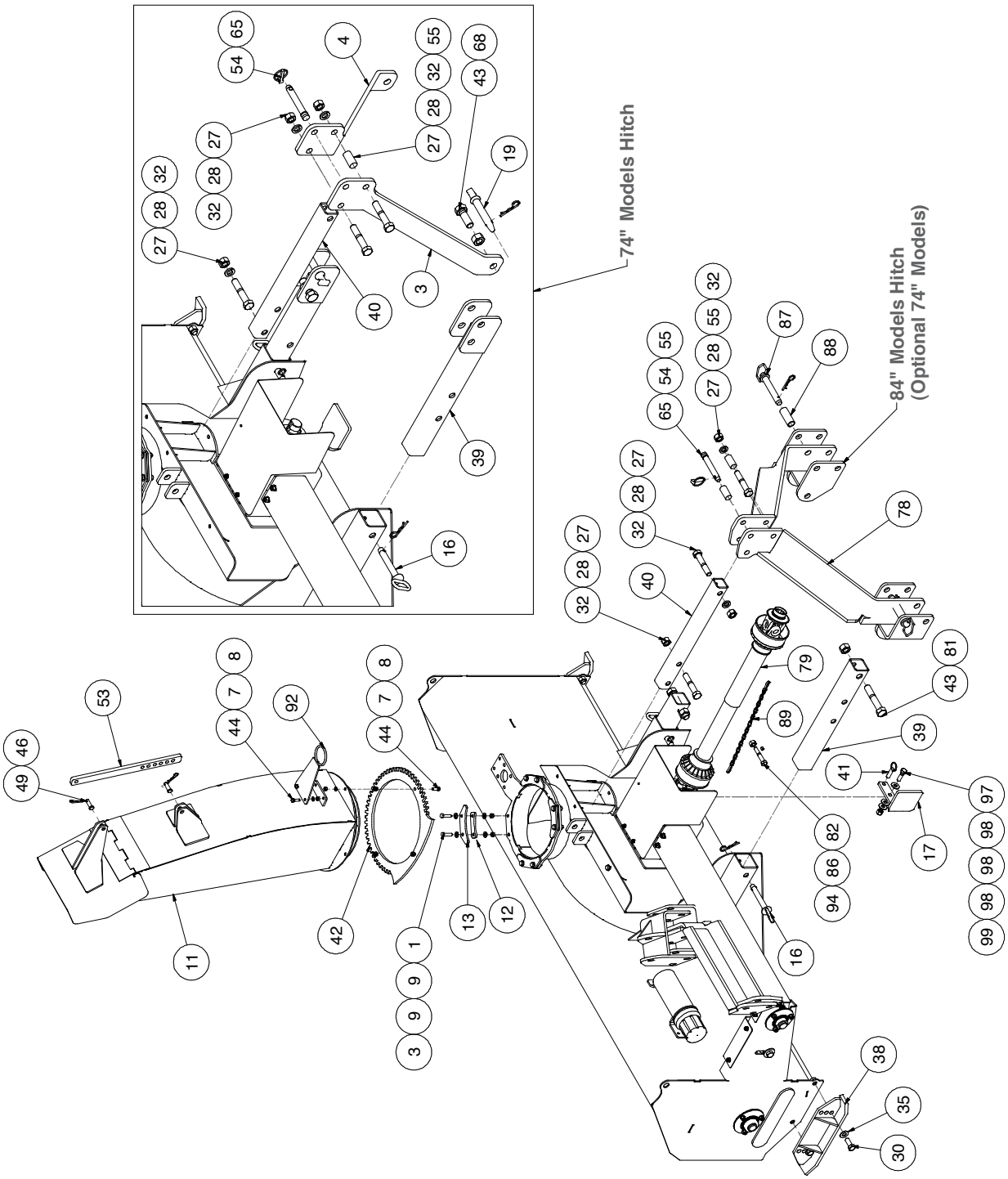
1) For Grade A locknut torque specifications refer to Grade B specifications.

7420 & 8420 Snowblower Drawings



8420G Snowblower Drawings




74" Models Hitch
84" Models Hitch
(Optional 74" Models)

When Ordering Parts

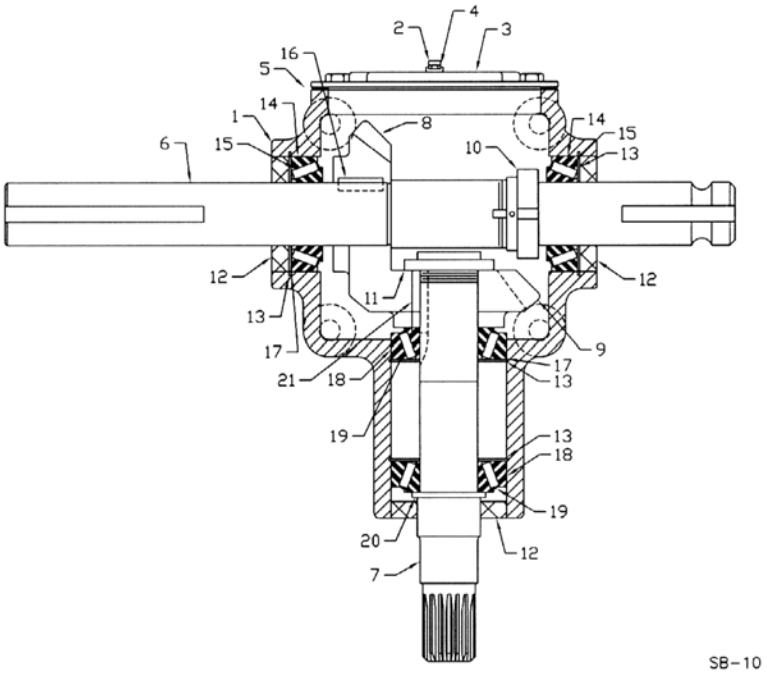
Always give your dealer the Model, Color and Serial Number of your machine to assist them in ordering and obtaining the correct parts. Use the exploded view and tabular listing of the area of interest to exactly identify the required part.

Item	Part Number	Description	Qty
1	811792	Bolt Hex 0.375 x 1.50	8
2	812363	Nut Lock (Steel) 0.375 Grb Pl	8
3	815263	74" Hitch LHS	1
4	815264	74" Hitch RHS	1
5	81527	Bolt Hex 0.25Nc x 1.00 Gr5 Pl	1
6	81549	Bolt Hex 0.313Nc x 0.75 Gr5 Pl	4
7	81568	5/16" Hex Nut Pl	10
8	81569	5/16" Lock Washer Pl	10
9	81570	Washer 0.375 Flat St Hs Pl	16
10	816977	74" Main Housing Weldment	1
	816978	84" Main Housing Weldment	1
	816980	84G Main Housing Weldment	1
11	816666	74"/84" Spout Weldment	1
12	816930	74"/84" Spout Spacer	4
13	815574	74"/84" Spout Clamp	4
14	81592	3/8" Hex Nut (Pl)	20
15	81593	Lock Washer 0.375	16
16	816131	3/4" Dia. x 4.25" Lg Clev Pin	2
17	816255	74/84 Parking Stand	1
18	816137	74/84 Fan Shaft	1
19	816151	Clevis Pin 0.88" Dia. x 3-3/4" Lg	2
20	816169	74" Driveshaft Weldment	1
	816171	84" Driveshaft Weldment	1
	965403	84G Driveshaft Weldment	1
21	81620	Bolt Hex 0.500Nc x 1.25 Gr5 Pl	8
22	81636	1/2" Hex Nut (Pl)	8
23	81637	0.50 Lock Washer	8
24	81676	5/8" Hex Nut (Pl)	1
25	81677	Washer Lock 0.625 Pl	1
26	81678	5/8" Flat Washer Std (Pl)	4
27	81700	3/4" Hex Nut (Pl)	3
28	81701	3/4" Lock Washer (Pl)	3
29	84072	3/8" x 3/4" Hex Bolt (Pl)	4
30	84268	Bolt Hex 0.625Nc x 1.50 Gr5 Pl	5
31	84289	5/8" x 3" Hex Bolt (Pl)	1
32	84336	3/4" x 4" Hex Bolt (Pl)	3

Item	Part Number	Description	Qty
33	84498	1/4" Lock Nut (Pl)	1
34	86170	Hex Bolt 0.375 Unc x 1.0	12
35	812639	Washer Flat 0.625	4
36	901939	Aug Assy 74"	1
	901934	Aug Assy 84"	1
37	901940	Dr Shft Key 5/16" x 5/16" x 1-1/4"	1
38	816819	Skid Shoe Weldment	2
39	907213	Btm Tube Weldt	2
	907250	Htch Tube 3/16" x 2-1/2" x 2-1/2" x 20 5/8"	2
40	907217	Upr Htch Tube - Cat 1 Hitch	1
	907220	Upr Htch Tube - Cat 1 & 2	1
41	816268	1/2" x 1" (Usable Length) Detent Pin	1
42	816673	Spout Ring Gear	1
43	907674	7/8" Lock Nut	2
44	812026	Bolt Hex 0.313Nc x 1.00 Gr5 (Pl)	6
45	909277	Manual Holder 3-1/2" x 12"	1
46	961012	#16 Hair Pin Clip	2
47	961637	Bearing Flange 62Ms	4
48	961675	Bearing Flange 72Ms	4
49	961876	1/2" x 1 1/2" Clev Pin (Pl)	2
50	965410	PTO Shld 14Ga	1
	965409	84G PTO Shld 14Ga	1
51	965415	Dr Shft Guard 16Ga x 8" x 32"	1
	965404	Dr Shft Guard 16Ga x 8" x 37"	1
52	965447	4-Blade Fan Weldt	1
53	965646	1/2" x 1-1/4" x 18" Adj Bar	1
54	965807	Top Link Pin (Cat.1), 5'Rc	1
55	965808	Top Link Pin Bushing Cat 1 & 2	2
56	965814	3/8" x 3/8" x 4-1/4" Fan Shft Key	1
57	965816	Bev Gear 1-1/4" Bore	1
58	965817	Bev Gear 1-1/2" Bore	1
59	965818	Bearing 1-1/4" w/Collar	2
60	965821	3/8" x 3/8" x 1-3/4" Fan Shft Key	1
61	965826	Shear Sprocket 13T #50 1-1/4" Bore	1
62	965827	Rchain #50 x 98 Link w/ Conn	1
63	965834	Idler Spacer 7/64" W x 27/32" Od x 5/8"	1
64	965844	Idler Sprkt 15T #50	1
65	965911	7/16" Linch Pin	1
66	965917	1 3/8" Bearing	2
67	965968	14Ga x 7-1/2" x 8" Idler Shld	1

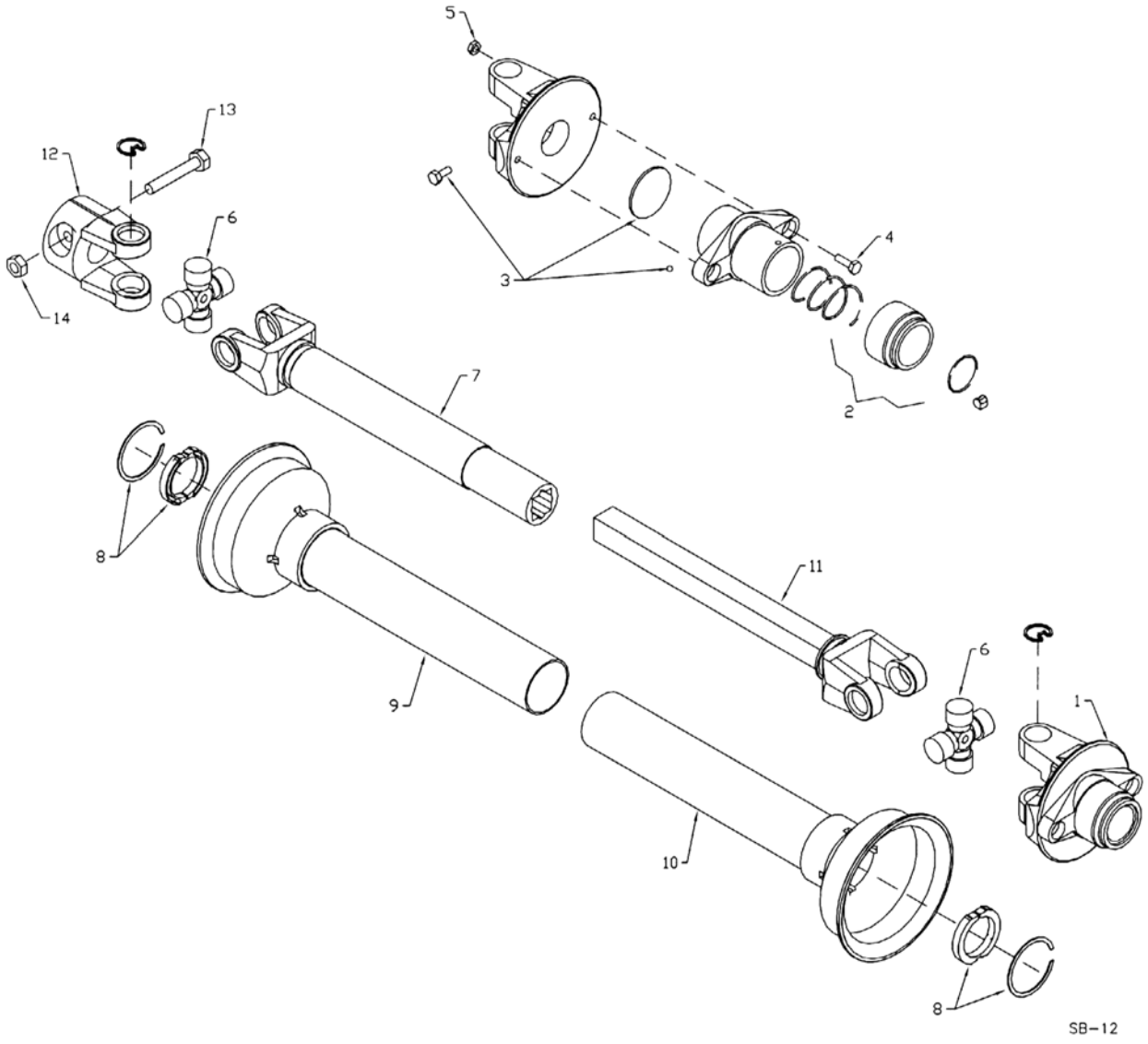
Item	Part Number	Description	Qty
68	966527	7/8" x 2-1/2" Hex Bolt (Pl)	2
69	9812410	3/8" Lock Washer	4
70	9812356	Bolt Hex 3/8" Nc 1.25 Gr 5 Br	4
71	967260	1-1/2"Ø Brg Flg	4
72	967458	Adma PTO Safety Manual	1
73	968627	1-1/2" Brg w/ Collar	2
74	9812433	3/16" x 1-1/2" Cotter Pin	2
75	9812440	1-1/4" x 18Ga Nr Washer (Br)	1
76	9812442	1-1/4" x 10Ga Nr Washer (Br)	1
77	9812445	1-1/2" x 10Ga Narrow Rim Wash (Br)	2
78	F0463	Hitch Weldt - Cat 1 & 2	1
79	F842	PTO Shaft	1
81	811826	7/8" x 5" Hex Bolt (Pl)	2
82	812364	Nut Lock (Steel) 0.500Nc Grb Pl	1
83	81523	1/4" x 1/2" Hex Bolt (Pl)	2
84	81544	1/4" Hex Nut (Pl)	2
85	81545	1/4" Lock Washer (Pl)	2
86	81627	1/2" x 3" Hex Bolt (Pl)	1
87	907315	Pin Weldt 0.88" x 7.75" Cat 1 & 2	2
88	907316	Pin Sleeve 7/64" W x 1-1/8" x 2-7/8"	2
89	910426	Safety Chain - All	1
90	960135	PTO Shld Sprg (#661)	1
91	909021	Extra Shear Bolt 0.25" Nc Gr5 WINut2	1
92	907590	Spout Hose Holder	1
93	965825	Sprocket 40t #50 1.375" B	1
94	988999	3/8"Ø x 3/8" Socket Set Screw (Br)	1
95	81619	Bolt Hex 0.500 x 1.00 Gr5 Pl	8
96	BU50506	Gbox	1
97	87553	Bolt Hex 0.500 x 1.75 Gr5 (Pl)	1
98	84048	Washer 0.500 Flat SAE Bs Pl	3
99	81966	Nut Lock (Nylon) 0.500Nc Pl	1

8420G Snowblower Gearbox Drawing



Item	Part Number	Description
	BU50506	Gearbox Complete
1	BU50310	Gearbox Casting Only
2	BU500089-3	Pipe Plug
3	BU50457	Gearbox Cover
4	BU500167-1	Relief Valve
5	BU50458	Gearbox Gasket
6	BU50508	Cross Shaft
7	BU50502	Pinion Shaft
8	BU50329	Bevel Gear - 1-1/2" Bore
9	BU50331	Bevel Gear - 1-3/8" Bore
10	BU50428	Staking Lock Nut
11	BU50444	Staking Lock Nut
12	BU50422-1	Oil Seal (3 Used)
13	BU50415	Retainer Ring (4 Used)
14	BU575902	Bearing Cup (2 Used)
15	BU575901	Bearing Cone (2 Used)
16	BU50429	Key
17	BU50210X	Shim Set
18	BU575907	Bearing Cup (2 Used)
19	BU575906	Bearing Cone (2 Used)
20	BU278811	Retainer Ring
21	BU50417-1	Key

Snowblower PTO Drawing

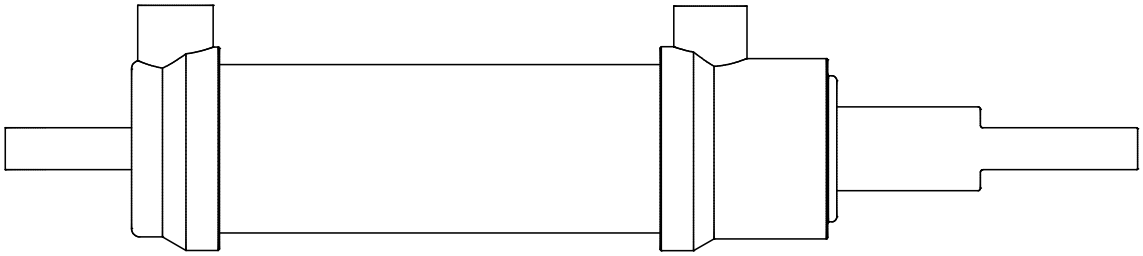


Item	Part Number	Description
	F842	Standard PTO Shaft Complete
	936263	Tractor Half of PTO (Shear)
	936264	Implement Half of PTO (Clamp Yoke)
1	936277	Shear Assembly
2	936199	Safety Slide Lock Repair Kit
		(Collar, Spring, Ret. Ring, 2-Pawls)
3	936249	Shear Assembly Repair Kit (3/8" x 1/2" Bolt,
		Lube, Blank, 31 - 1/4" Balls)
4	903296	Shear Bolt - 5/16" x 1" (Grade 5) (Pack of 10)
5		5/16" Lock Nut
6	936025	Repair Kit (Option)
	906504	Extended Life Repair Kit (Std)
7	936270	Yoke & Tube
8	936319	Bearing & Snap Ring Kit
9	936272	Inner Shield
10	936273	Outer Shield
11	936274	Yoke & Shaft
12	936269	Clamp Yoke
13		1/2" x 3" Hex Bolt (pl)
14		1/2" Lock Nut (pl)

Optional Long PTO Shaft

Item	Part Number	Description
	F844	Long PTO Shaft Complete (Optional)
	936285	Tractor Half of PTO (Shear)
	936280	Implement Half of PTO (Clamp Yoke)
1	936277	Shear Assembly
2	936199	Safety Slide Lock Repair Kit
		(Collar, Spring, Ret. Ring, 2-Pawls)
3	936249	Shear Assembly Repair Kit
		(3/8" x 1/2" Bolt, Lube, Blank, 31-1/4" Balls)
4	903296	Shear Bolt - 5/16" x 1" (Grade 5) (Pack of 10)
5	812362	5/16" Lock Nut
6	936025	Repair Kit (Option)
	906504	Extended Life Repair Kit (Std)
7	936281	Yoke & Tube
8	936319	Bearing & Snap Ring Kit
9	936282	Inner Shield
10	936283	Outer Shield
11	936284	Yoke & Shaft
12	936269	Clamp Yoke
13	81627	1/2" x 3" Hex Bolt (pl)
14	812364	1/2" Lock Nut (pl)

1.75 x 5 Cylinder Assembly Drawing (Optional)



Item	Part Number	Description
	24930M	Cylinder Complete
-	X3913	Seal Kit

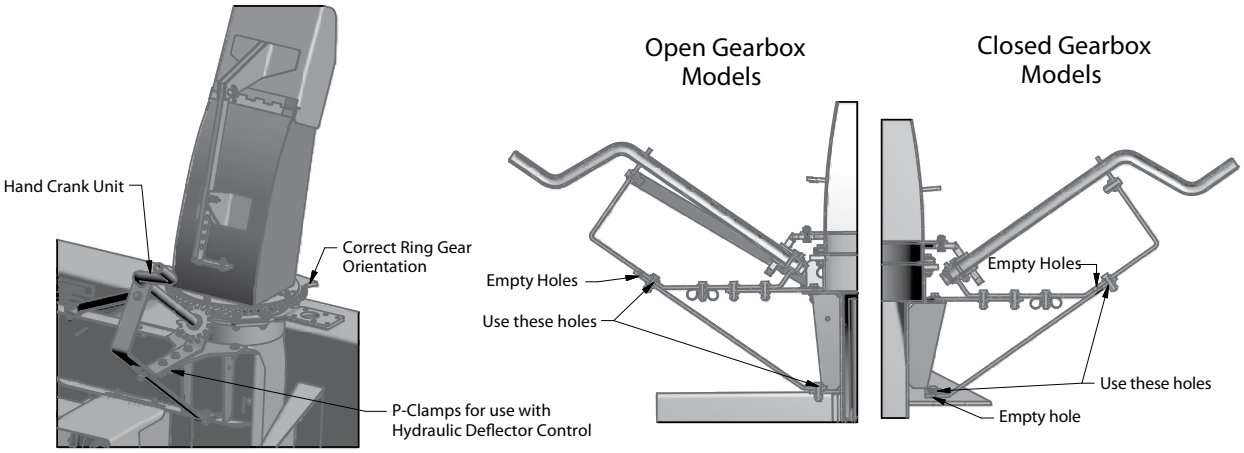
	F9117	Spout Deflector Cylinder & Hose Kit
1	116984	Hose 3/8 x 120 c/w Fittings
2	24930M	Cylinder 1.75 Dia x 5.0 9/16 Orb
3	960913	Clevis Pin 0.500 x 1.813 Pl
4	9812430	Cotter Pin 0.125 x 1.00 Pl

Optional Kits

Hand Crank Spout Rotation

Assembly

Use picture below or exploded view on next page for reference

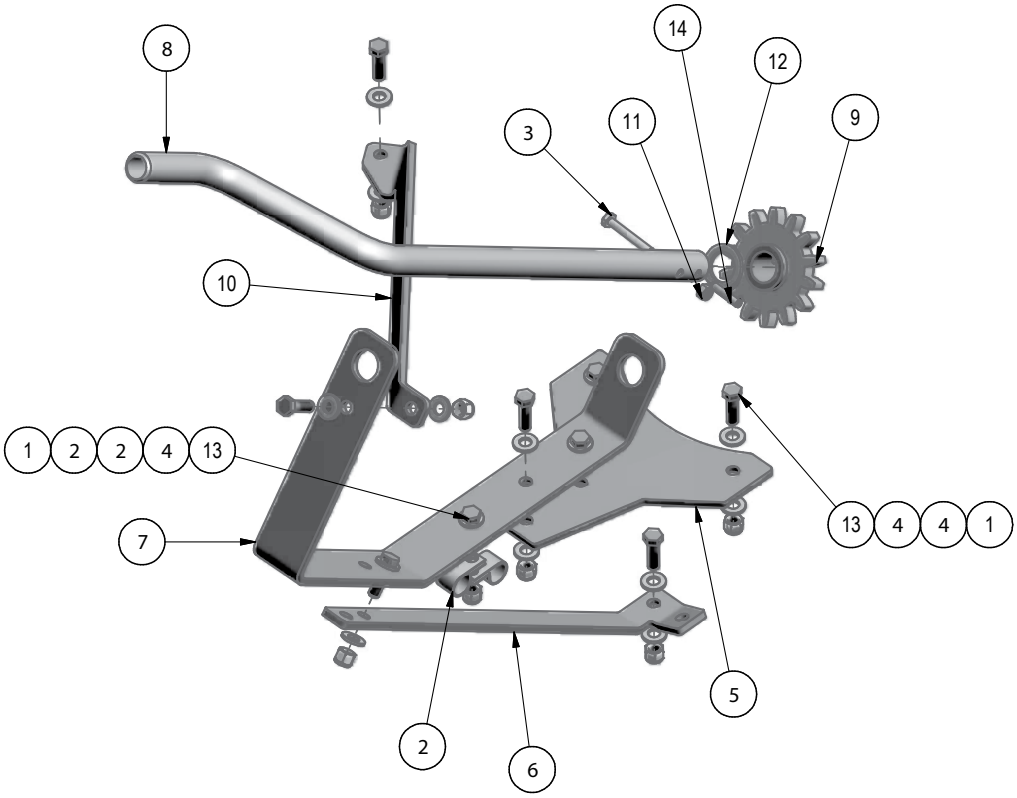


1. Bolt horizontal brace (816893) to crank bracket (816895) using the supplied hardware (81570, 81344, & 86171).
2. Insert crank handle (816896) into taller end of crank bracket. Insert gear onto handle with hub towards end. Finish inserting handle onto the other end of crank bracket. Bolt on gear with supplied 1/4" hardware (81531 & 81922). Place 1" washer (84522) onto end of handle then insert roll pin (9812425) through hole closest to the end.
3. Rotate gear spout ring (816673) on the bottom of the spout (816666) if needed. With spout in forward facing position, the non-toothed smooth portion of the gear spout ring should be on the side opposite of the gear on the hand crank. Make sure bolts come through the bottom and the washer and nut are located on top.
4. Bolt crank onto snowblower body with supplied hardware (81570, 81344, 86171). Turn chute or handle manually to obtain alignment of gear teeth.
5. When bolting vertical brace (816894) onto unit, the holes used depends on snowblower model. Start by bolting on the lower part. This will help correctly identify which top hole to use. Finish bolting on brace with supplied hardware (81570, 81344, 86171)
6. Bolt on side brace (816993) with supplied hardware (81570, 81344, 86171).
7. If snowblower is equipped with the optional hydraulic chute control, insert hoses into P-clamps (815250) then bolt onto crank bracket. Carefully operate the chute to full left and right positions to ensure hoses have sufficient slack to not prohibit movement. Keep slack to a minimum to prevent hoses from becoming trapped between the gears.

Operation, Maintenance and Troubleshooting

1. Ensure all hardware remains tight or function of unit may become impaired.
2. Keep gears lubicated.
3. If equipped with optional hydraulic chute control, ensure hoses are not interfering with the gears.

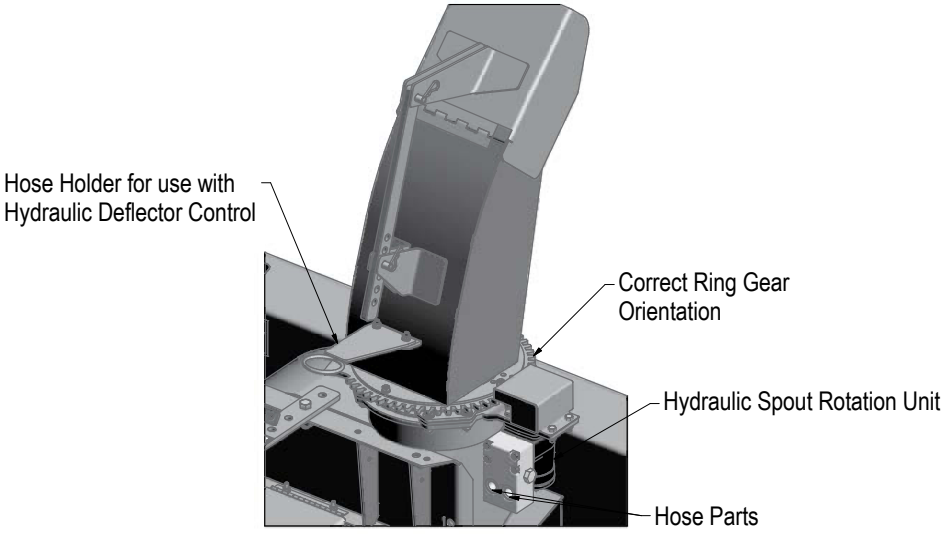
Item	Part Number	Description	Qty
1	81344	Lock Nut (Nylon) 0.375 Nc	9
2	815250	P-Clamp For 3/4 Od, .406 Hole	2
3	81531	Bolt Hex 0.25 Nc x 2.00 Gr5 Pl	1
4	81570	Washer 0.375 Flat St Hs Pl	17
5	816893	Hortizonal Brace	1
6	816894	Vertical Brace	1
7	816895	Crank Bracket	1
8	816896	Crank Handle	1
9	816897	Gear Weldment	1
10	816993	Hand Crank - Side Brace	1
11	81922	Lock Nut (Nylon) 0.25 Nc	1
12	84522	Washer Flat 1.00	1
13	86171	Bolt Hex 0.375 Nc x 1.25	9
14	9812425	1/4" x 1-1/4" Spring Pin	1



Hydraulic Spout Rotation

Assembly

Use picture below or exploded view on next page for reference

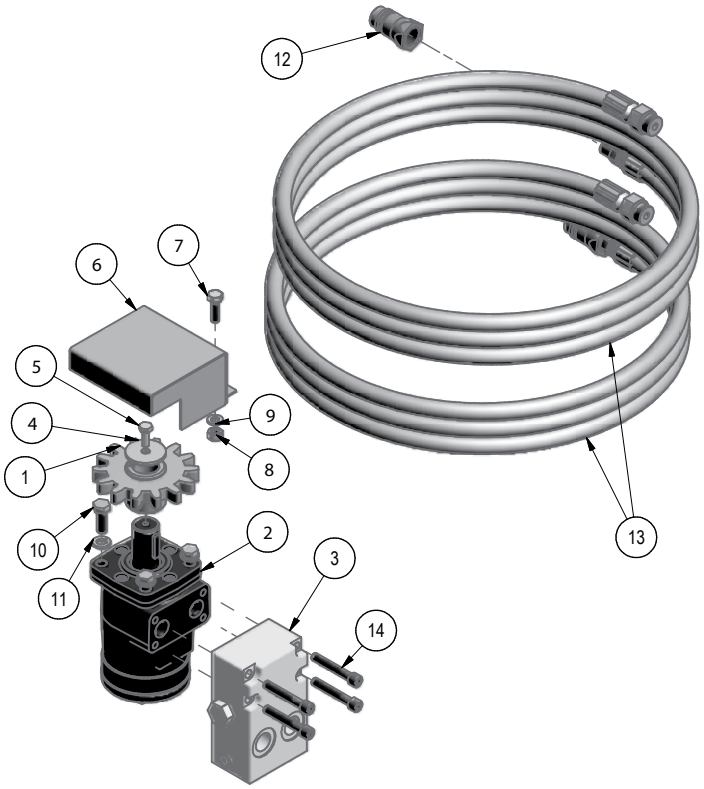


1. Bolt manifold (816919) to the motor (971518) using 5/16" socket head bolts (967249). Make sure o-rings are in place after disposable protective shield is removed.
2. Mount motor to the main body using 3/8" bolts and washers (86170 & 81593). Ensure that the manifold is on the side that points the manifold ports to the rear of the snowblower.
3. Fasten the gear hub weldment (816435) to the motor using the 1/4" x 3/4" bolt (81525) and the 1-1/2" OD x 5/16" ID washer (813748) with the extended hub facing downwards.
4. Rotate gear spout ring (816673) on the bottom of the spout (816666) if needed. With spout in forward facing position, the non-toothed smooth portion of the gear spout ring should be on the side opposite of the gear on the hydraulic motor. Make sure bolts come through the bottom and the washer and nut are located on top.
5. Secure the gear guard cover (816840) above the motor using 5/16" hardware (812026, 81569, 81568).
6. Attach spout rotation hoses (816682) to manifold.
7. If snowblower is equipped with the optional hydraulic chute control, install spout hose holder included in spout crate.

Operation, Maintenance and Troubleshooting

1. Ensure all hardware remains tight or function of unit may become impaired.
2. Keep gears greased.
3. If equipped with optional hydraulic chute control ensure hoses are not interfering with the gears.
4. Ensure proper hydraulic fluid level in tractor.
5. Gear cover must be installed before operation of the spout

Item	Part Number	Description	Qty
1	816435	Gear Hub Weldt	1
2	971518	Hydraulic Motor 101-1018-009	1
3	816919	Manifold - Spt Gear Rot	1
4	813748	Washer, Fender, 1-1/2" Od x 5/16" Id (Pl)	1
5	81525	Bolt Hex 0.250Nc x 0.750 Gr5 Pl	1
6	816840	Gear Guard Weldt	1
7	812026	5/16" x 1" Hex Bolt (Pl)	2
8	81568	5/16" Hex Nut (Pl)	2
9	81569	5/16" Lock Washer Pl	2
10	86170	Hex Bolt 0.375 Unc x 1.0	4
11	81593	Lock Washer 0.375	4
12	812208	Nipple 1/2" Body 1/2"-14 Nptf Quick Connect	2
13	816677	Hose 3/8 x 92 1/2 Mnpt x 3/4 Morb	2
14	967249	5/16" x 2" Sckt Head Bolt (Br)	4



Shipping Kit and Bundle Numbers

The following is a list of Kit Numbers for this product and the Bundle Numbers, Descriptions, and Quantities for each Kit.

Quantity	Bundle Number	Description
YC7420 - 74" Snowblower w/ Hydraulic Chute Control, 4-Blade Fan		
1	F1663A	Body Assembly
YC8420 - 84" Snowblower w/ Hydraulic Chute Control, 4-Blade Fan		
1	F1664A	Body Assembly
1	F0463	Hitch
YC8420G - 84" Snowblower w/ Hydraulic Chute Control, 4-Blade Fan		
1	F1665A	Body Assembly
1	F0463	Hitch

Optional Bundle Numbers

The following is a list of options available for the Kits listed above.

1	F844	36" Optional Long PTO
1	F842	Standard PTO
1	F9117	Spout Deflector Cylinder & Hose Kit
1	F1545	Hydraulic Spout Rotation (Optional)
1	F1658	Hand Crank Spout Rotation (Optional)

Allied by Farm King Limited Warranty

This document limits your warranty rights.

Base Limited Warranty

Buhler Industries Inc. provides this warranty only to original retail purchasers of its product. Buhler Industries Inc. warrants to such purchasers that all Buhler Industries Inc. manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of 12 months (80 days for commercial applications). This limited warranty applies only to those parts and components manufactured by Buhler Industries Inc. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Buhler Industries Inc. will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Buhler Industries Inc. within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Buhler Industries Inc. reserves the right to either inspect the product at the buyer's location or have it returned to the factory for inspection. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Buhler Industries Inc. will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Buhler Industries Inc. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance. Also: Buckets and Bucket Tines carry no warranty, Bent Spears carry no warranty, Snowblower Fan Shafts carry no warranty, Mower Blades carry no warranty, Portable Auger Parts Have Two (2) Year Warranty, Loader Parts Have Two (2) Year Warranty. The purchaser is solely responsible for determining suitability of goods sold. This warranty is expressly in lieu of all other warranties expressed or implied. Buhler Industries Inc. will in no event be liable for any incidental or consequential damages whatsoever. Nor for any sum in excess of the price received for the goods for which liability is claimed.

Repair Parts Limited Warranty

Buhler Industries Inc. warrants Farm King replacement parts purchased after the expiration of the Buhler Industries Inc. Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Buhler Industries Inc. will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Buhler Industries Inc. within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to Buhler Industries Inc. at the purchaser's expense.

What is Not Covered

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Buhler Industries Inc.; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and or authorized by Buhler Industries Inc.

Authorized Dealer and Labor Costs
Repairs eligible for labor under this limited warranty must be made by Buhler Industries Inc. or an authorized Farm King dealer. Buhler Industries Inc. retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Buhler Industries Inc. determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Buhler Industries Inc. will not approve or pay invoices sent for repairs that Buhler Industries Inc. has not previously approved. Warranty service does not extend the original term of this limited warranty.

Warranty Requirements
To be covered by warranty, each Farm King new product must be registered with Buhler Industries Inc. within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Buhler Industries Inc. will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

Warranty Claims:
Warranty requests must be prepared on Buhler Industries Inc. Warranty Claim Forms with all requested information properly completed. Warranty Claims must be submitted within a thirty (30) day period from date of failure repair.

Warranty Labor:
Any labor subject to warranty must be authorized by Buhler Industries Inc. The labor rate for replacing defective parts, where applicable, will be credited at 100% of the dealer's posted shop rate.

Exclusive Effect of Warranty and Limitation of Liability

TO THE EXTENT PERMITTED BY LAW, BUHLER INDUSTRIES INC. DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, BUHLER INDUSTRIES INC. DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON BUHLER INDUSTRIES INC.'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON PRODUCTS MANUFACTURED BY BUHLER INDUSTRIES INC. ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL BUHLER INDUSTRIES INC. BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT.

(Note that some provinces or states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from province to province or state to state.

Buhler Industries Inc. neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Buhler Industries Inc. to the purchaser, and Buhler Industries Inc. shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Buhler Industries Inc.'s ability to obtain materials or manufacture replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

Government Legislation:
Warranty terms and conditions are subject to provincial or state legislation.

Important Note: This warranty does not apply to rentals.

www.farm-king.com

1330 43rd Street NW
Fargo, ND USA 58102
Ph.: 701.282.7014 | Fax: 701.282.5865
Toll Free: 888.524.1004
E-mail: info@buhler.com
www.farm-king.com

Equipment shown is subject to change without notice.
©2014 Buhler Trading Inc. Printed in USA. TSX:BUI

bühler | *a division of Buhler Industries Inc.*